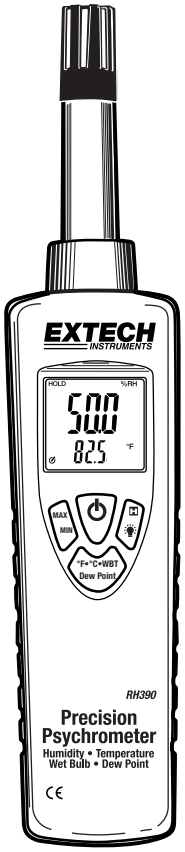
User's Guide

EXTECH INSTRUMENTS

Digital Psychrometer

Model RH390



Introduction

Congratulations on your purchase of the Extech RH390 Digital Psychrometer. This device measures Humidity, Air Temperature, Dew Point temperature and Wet Bulb temperature. Advanced features include Data Hold, Auto Power Off, and MAX/MIN reading. Careful use of this meter will provide years of reliable service.

Specifications

Function	Range and Resolution	Accuracy
Humidity	0.0 to 100.0%RH	±2%RH (20% to 90%) ±3%RH (10% to 20% and 90 to 95%) ±4%RH typical at 1% and 99%
Temperature	-4.0 to 158.0°F (-20 to 70°C)	±1.8°F (±1°C)
	-22.0 to – 3.9°F and 158.1 to 199.0°F (-30.0 to -19.9°C and 70.1 to 100.0°C)	±2.7°F (±1.5°C)

Display	Dual LCD
Response Time:	<30 seconds (90% of final value in moving air)
Sensor Type	Humidity: Precision capacitance sensor
	Temperature: Thermistor
Wet Bulb	32 to 176°F (0 to 80°C) (calculated from RH and Air temperature measurements)
Dew Point	-22 to 199°F (-30 to 100°C) (calculated from RH and Air temperature measurements)
Operating Conditions	32 to 122°F (0 to 50°C); < 80% RH non-condensing
Storage Conditions	-40 to 185°F (-40 to 85°C); <99% RH non-condensing
Power Supply	9 Volt battery
Battery Life	Approx. 24 hours
Dimensions / Weight	7.8 x 1.7 x 1.3” (200 x 45 x 33mm); 7 oz. (200g)

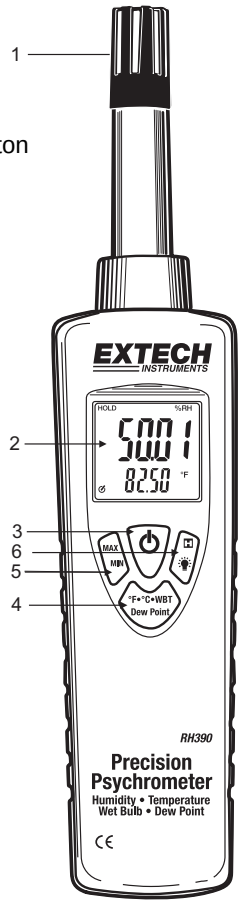
Warranty

EXTECH INSTRUMENTS CORPORATION *warrants this instrument to be free of defects in parts and workmanship for* ***one year*** *from date of shipment (a six month limited warranty applies to sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website www.extech.com for contact information. A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.*

Meter Description

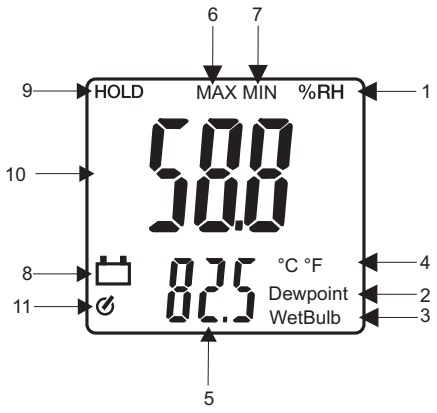
1. Humidity & Temperature Sensor
2. LCD Display
3. Power ON/OFF button
4. °F/°C/WBT (wet bulb)/Dew Point button
5. MIN/MAX button
6. HOLD/Backlight button

Note: The battery compartment is located on the rear of the instrument



Display Description

1. Relative Humidity %
2. Dew Point
3. Wet Bulb
4. °C/°F
5. Temp/WB/DP Display
6. Maximum
7. Minimum
8. Low Battery
9. Hold
10. RH% Display
11. Auto Off

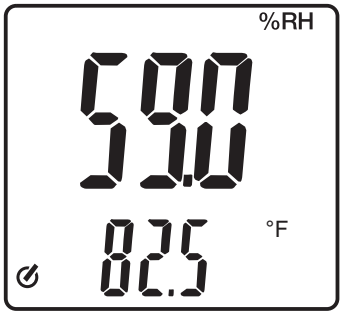


Operation

Power

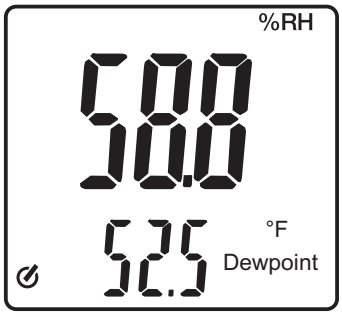
Press the power button(⏻) to turn power on or off.

Taking measurements



1. Hold the probe in the area to be tested.
2. Allow adequate time for readings to stabilize.
3. The Relative Humidity measurement appears in the top display.
4. Pressing the **°F/°C/WBT/Dew Point** button toggles the lower display between Temperature (°F), Temperature (°C), Dew Point (°C), Dew Point (°F), Wet Bulb (°C) and Wet Bulb (°F).

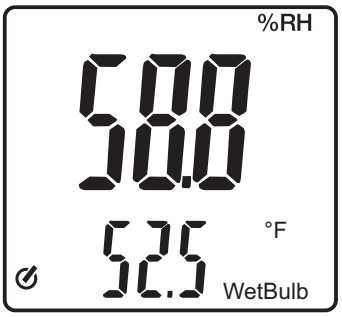
Dew Point measurements



1. To select the Dew Point measurement, press the **°F/°C/WBT/Dew Point** button until DEWPOINT (°F or °C) appears in the lower right.
2. Dew Point temperature is now displayed.

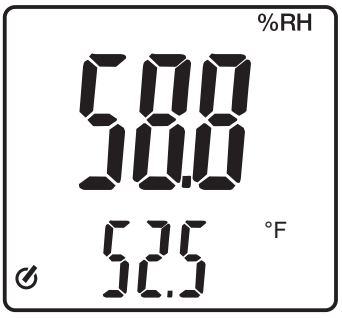
Wet Bulb measurements

1. To select the Wet Bulb measurement, press the °**°F/°C/WBT/Dew Point** button until WET BULB (°F or °C) appears in the lower right.
2. Wet Bulb temperature is now displayed.



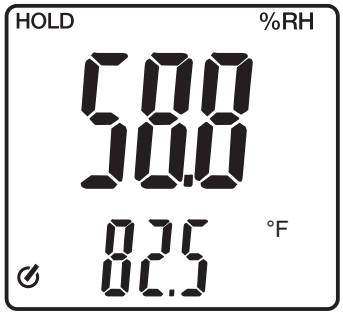
Temperature measurements

1. To select the temperature measurement, press the **°F/°C/WBT/Dew Point** button until °C or °F appears in the lower right.
2. Temperature is now displayed.

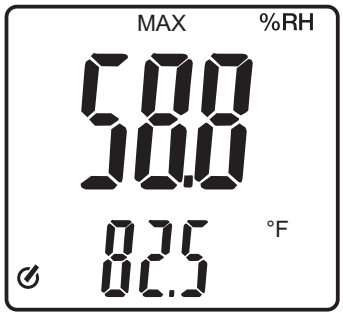


Data Hold

Press the hold button ( ) momentarily to freeze the displayed readings."**HOLD"** will appear on the upper left-hand side of the display. Press the hold button ( ) again to return to normal operation.



Minimum (MIN) Maximum (MAX) Function



The MIN/MAX mode allows the user to view only the lowest (**MIN**) or highest (**MAX**) readings.

Press the **MAX/MIN** button once and "**MAX"** appears on the display. The LCD is now displaying the maximum humidity in the top display and the maximum reading of the selected parameter in the bottom display. The display will not change until a higher reading is registered.

Press the **MAX/MIN** button again and "**MIN"** appears on the display. The LCD is now displaying the minimum humidity and the minimum second reading in the bottom display. The display will not change until a lower reading is registered.

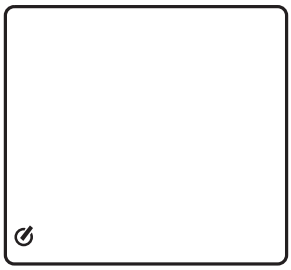
To exit the MIN/MAX mode, press and hold the **MIN/MAX** button for 2 seconds until the "**MAX"** or "**MIN"** icon disappears.

Note: Readings are automatically reset when switching from one display to the next (MAX to MIN).

Backlight

Press and hold the light button ( ) until the backlight comes on. To turn the backlight off press and hold the light button ( ) until to backlight turns off.

Automatic Power OFF



The meter has a default setting that automatically shuts the meter off after 10 minutes (indicated by the symbol on the display. This battery saving feature can be disabled. To disable the auto power off function, simply press and hold the hold button ( ) while powering on. The symbol will not appear when auto power off has been disabled. The meter will revert to the default auto-off mode when powered off.

Maintenance

Cleaning and storage

1. The meter should be cleaned with a damp cloth and mild detergent when necessary. Do not use solvents or abrasives.
2. Store the meter in an area with moderate temperature and humidity (refer to the operating and storage range in the specifications chart earlier in this manual).

Battery Replacement

When the battery power falls low, the battery symbol will appear on the LCD. Replace the 9 Volt battery by removing the Philips head screw holding the rear battery compartment cover to access the battery compartment. Ensure that the compartment cover is securely fastened when finished.

Calibration and Repair Services

Extech offers repair and calibration services for the products we sell. Extech also provides NIST certification for most products. Call the Customer Service Department for information on calibration services available for this product. Extech recommends that annual calibrations be performed to verify meter performance and accuracy.

☎

Support line (781) 890-7440

Technical support: Extension 200; E-mail: support@extech.com

Repair & Returns: Extension 210; E-mail: repair@extech.com

Product specifications subject to change without notice

For the latest version of this User's Guide, Software updates, and other up-to-the-minute product information, visit our website: www.extech.com

Copyright © 2005 Extech Instruments Corporation

All rights reserved including the right of reproduction in whole or in part in any form.

This datasheet has been downloaded from:

www.EEworld.com.cn

Free Download

Daily Updated Database

100% Free Datasheet Search Site

100% Free IC Replacement Search Site

Convenient Electronic Dictionary

Fast Search System

www.EEworld.com.cn

All Datasheets Cannot Be Modified Without Permission

Copyright © Each Manufacturing Company